

WHAT IS CLAIMED IS:

1. A liquid crystal display apparatus for executing a display corresponding to display data to be inputted from the outside, comprising:

a display panel,

a light-source for illuminating said display panel, and

a controlling circuit for controlling light emitting time of said light source during one frame period of said display data in accordance with luminance information of said display data.

2. A liquid crystal display apparatus for executing a display corresponding to display data to be inputted from the outside, comprising:

a display panel,

a light-source for illuminating said display panel, and

a control circuit for varying light emitting luminance of said light source periodically in accordance with luminance information of said display data.

3. A liquid crystal display apparatus for executing a display corresponding to display data to be inputted from the outside, comprising:

a liquid crystal panel,

a light-source for illuminating said liquid crystal panel, and

a controlling circuit having a period, said period including a time having a 1st light-emission

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luminance and a time having a 2nd light-emission luminance, said controlling circuit changing a time ratio of said 1st light-emission luminance and that of said 2nd light-emission luminance during said period in accordance with said display data.

4. The liquid crystal display apparatus as claimed in Claim 3, wherein

said time having said 1st light-emission luminance is longer than said time having said 2nd light-emission luminance, said controlling circuit controlling said time ratio of said 1st light-emission luminance in said period to be 50 % or smaller when said display data is a motion-frame picture, and to be 50 % or larger when said display data is a freeze-frame picture.

5. The liquid crystal display apparatus as claimed in Claim 3, wherein said 2nd light-emission luminance is equal to substantially 0.

6. The liquid crystal display apparatus as claimed in Claim 3, wherein said controlling circuit comprises:

a data storing unit for storing said display data by the amount of at least 1 frame,

a data comparing unit for comparing corresponding pixels between said display data stored in said data storing unit and said display data to be inputted, and

a pulse controlling unit for outputting a

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a plurality of light-sources illuminating

said liquid crystal panel and having a period, said period including a 1st light-emission luminance and a 2nd light-emission luminance, and

a controlling circuit for changing a starting time of said 1st light-emission luminance and that of said 2nd light-emission luminance in accordance with said display data fed from the outside.

11. The liquid crystal display apparatus as claimed in Claim 10, wherein said controlling circuit comprises:

a data storing unit for storing said display data by the amount of at least 1 frame,

a data comparing unit for comparing corresponding pixels between said display data stored in said data storing unit and said display data to be inputted,

a mode judging unit for judging, in correspondence with a comparison result by said data comparing unit, in which display region many of motion-frame picture displays exist among display regions corresponding to said plurality of light-sources, and

a pulse controlling unit for outputting a signal toward each of said plurality of light-sources in accordance with a judgement result by said mode judging unit, said signal controlling said starting time of said 1st light-emission luminance and that of said 2nd light-emission luminance in said period.

12. The liquid crystal display apparatus as

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13. The liquid crystal display apparatus as claimed in Claim 10, wherein said 2nd light-emission luminance is equal to substantially 0.

a liquid crystal panel,
a light-source for illuminating said liquid
crystal panel,

a tone controlling circuit for updating a set value in at least 1 specified tone position in accordance with said luminance distribution data, and for determining a tone characteristic between said updated

respective set values on a 1-frame basis with the use of a predetermined arithmetic-calculation formula.

15. The liquid crystal display apparatus as claimed in Claim 14, wherein the number of said specified tones and a spacing between said set tones, which are updated on the 1-frame basis with respect to a tone region, are settable values.

16. A liquid crystal display apparatus for executing a display in correspondence with image data to be inputted, comprising:

a liquid crystal panel,

a light-source for illuminating said liquid crystal panel,

a luminance distribution detection controlling circuit for detecting, in accordance with said image data to be inputted, luminance distribution data by the amount of at least 1 frame of said image data, and

a light-source controlling circuit for controlling at least either of a light-emission time-period and a light-emission time of said light-source in accordance with said luminance distribution data.

17. The liquid crystal display apparatus as claimed in Claim 16, wherein said light-source controlling circuit controls at least either of a pulse-width duty and a phase of a blink waveform for controlling said light-emission of said light-source.

18. The liquid crystal display apparatus as

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claimed in Claim 16, wherein said light-source controlling circuit controls at least either of a pulse-width duty and a phase of a light-dimmer waveform for controlling said light-emission of said light-source.

19. The liquid crystal display apparatus as claimed in Claim 16, wherein said light-source controlling circuit controls said light-source light-emission time so that a light-source light-emission time for displaying image data becomes longer than a light-source light-emission time for displaying relatively darker image data, said image data being relatively brighter than predetermined image data.

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